

**Fig. 1a****Stage I**

Undifferentiated embryonic stem cells
cultured on feeder cells

**Stage II (7 days)**

Generation of nestin positive islet cell progenitors in
suspended embryoid bodies

**Stage III (7 days)**

Culture of embryoid bodies in ITSF medium:
elimination of nestin negative cells/progenitor isolation

**Stage IV (7 days)**

Culture of progenitors with N2, B27, bFGF
supplementation: expansion of progenitors

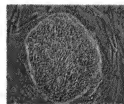
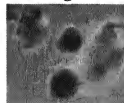
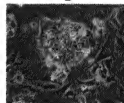
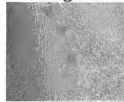
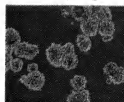
**Stage V (14 days)**

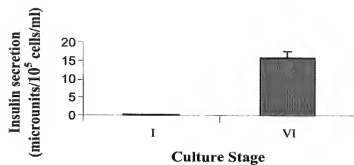
Replacement of bFGF with nicotinamide and reduction of
glucose concentration to 5 mM: generation of surface-bound
islet like clusters containing insulin producing cells

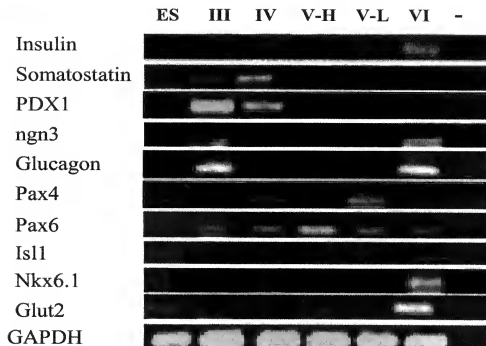
**Stage VI (14 days)**

Suspension culture of dissociated surface-bound clusters:

- generation of purified suspended islet like clusters
- steep increase in insulin secretion capacity
- purification of insulin producing cells
- prolongation of *in-vitro* longevity of insulin producing cells

Fig. 1b**Fig. 1c****Fig. 1d****Fig. 1e****Fig. 1f****Fig. 1g**

**Fig. 2**

**Fig. 3****STAGES**

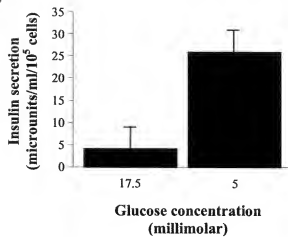
**Fig. 4**



Fig. 5a

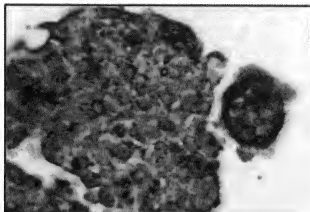


Fig. 5b

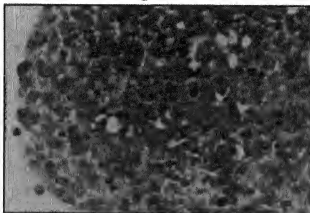


Fig. 5c

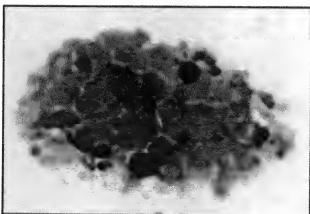
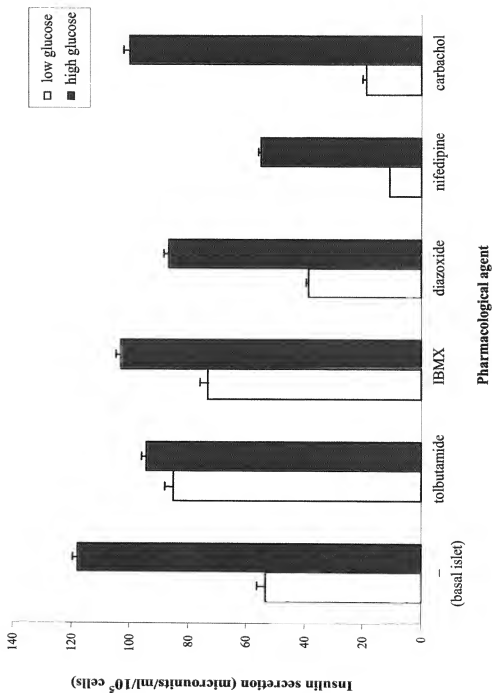


Fig. 6



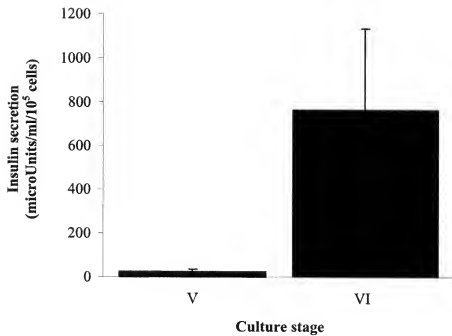
**Fig. 7**



Fig. 8a



Fig. 8b



Fig. 8c



Fig. 8d





Fig. 9a

Fig. 9b

Fig. 9c

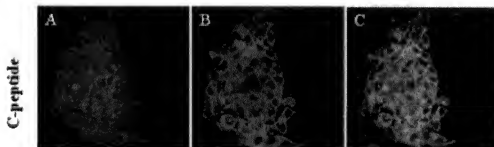


Fig. 9d

Fig. 9e

Fig. 9f

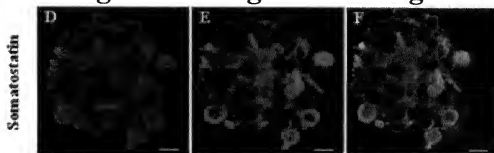


Fig. 9g

Fig. 9h

Fig. 9i

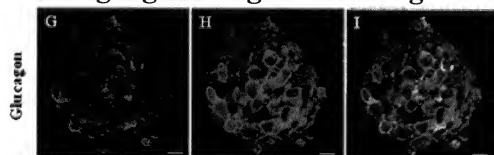




Fig. 10

